WE CLAIM:

1. In a lambda sensor for motor vehicles, having an integrated indicator (20), which permanently indicates an at least temporary thermal overload, the improvement wherein the indicator (20) comprises a body of indication material (21), with at least one limit temperature adapted to the maximum allowable operating temperature of the component, which limit temperature when it is exceeded causes a microstructural change in at least one component of the indication material.

2. The lambda sensor in accordance with claim 1, wherein the composition of the indication material (21) is such that microstructural changes in different material components occur when a plurality of limit temperatures are exceeded.

3. The lambda sensor in accordance with claim 1, wherein the indication material (21) is a solid which when the limit temperature is exceeded undergoes a microstructural change as a result of melting.

4. The lambda sensor in accordance with claim 2, wherein the indication material (21) is a solid which when the limit temperature is exceeded undergoes a microstructural change as a result of melting.

5. The lambda sensor in accordance with claim 1, wherein the indication material (21) is a solid which when the limit

temperature is exceeded undergoes a microstructural change as a result of oxidation.

6. The lambda sensor in accordance with claim 2, wherein the indication material (21) is a solid which when the limit temperature is exceeded undergoes a microstructural change as a result of oxidation.

7. The lambda sensor in accordance with claim 1, wherein the indication material (21) is a solid having material components which when the limit temperature is exceeded undergo a microstructural change as a result of chemical reaction.

8. The lambda sensor in accordance with claim 2, wherein the indication material (21) is a solid having material components which when the limit temperature is exceeded undergo a microstructural change as a result of chemical reaction.

9. The lambda sensor in accordance with claim 1, wherein the component comprises a void (20), and wherein the void (20) is filled with the indication material (21).

10. The lambda sensor in accordance with claim 2, wherein the component comprises a void (20), and wherein the void (20) is filled with the indication material (21).

11. The lambda sensor in accordance with claim 9, further comprising means closing the material-filled void (20) in the component.

12. The lambda sensor in accordance with claim 2, further comprising means closing the material-filled void (20) in the component.

13. The lambda sensor in accordance with claim 9, wherein the filling of the void (20) in the component is done by introduction under pressure.

14. The lambda sensor in accordance with claim 11, wherein the filling of the void (20) in the component is done by introduction under pressure.

15. The lambda sensor in accordance with claim 1, wherein the indication material (21) comprises a powder compaction of aluminum or aluminum alloy.

16. The lambda sensor in accordance with claim 2, wherein the indication material (21) comprises a powder compaction of aluminum or aluminum alloy.

17. The lambda sensor in accordance with claim 13, wherein the indication material (21) comprises a powder compaction of aluminum or aluminum alloy.

18. The lambda sensor in accordance with claim 1, wherein the indication material (21) comprises a ceramic foam.

19. The lambda sensor in accordance with claim 1, wherein the indication material (21) comprises a thermoplastic.

20. The lambda sensor in accordance with claim 9, wherein the lambda sensor comprises a hexagonal nut (13) for assembly, and wherein the void in the component is in the form of a blind bore (18) made in the hexagonal nut (13).